

INTERNATIONAL SEARCH REPORT

International Application No

CT/US 03/29680

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F16L19/02 F16L19/025

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 852 787 A (IND VEB) 2 November 1960 (1960-11-02)	1-6, 11, 14-29, 33-42, 46
Y	page 2, line 74 - line 96; figures	7-10, 12, 13, 30-32, 43-45, 47
X	CH 417 265 A (STREUN WALTER) 15 July 1966 (1966-07-15)	1-5, 7, 8, 11, 14-47
Y	figures	9, 10, 12, 13
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

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Date of the actual completion of the international search

12 January 2004

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PCT/US 03/29680

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 113 792 A (ERNEST BROWN) 10 December 1963 (1963-12-10)	1-6, 9-29, 33-42, 46, 47
Y	figures	7-10, 30-32, 43-45, 47
X	FR 2 233 553 A (GUIDO JURGEN) 10 January 1975 (1975-01-10)	1, 11, 20, 35
A	figures	2-10, 12-19, 21-34, 36-47
X	EP 0 823 578 A (NIPPON PILLAR PACKING) 11 February 1998 (1998-02-11)	1, 11, 20, 35
Y	cited in the application figures	7, 8, 30-32, 43-45

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 852787	A	02-11-1960	NONE	
CH 417265	A	15-07-1966	NONE	
US 3113792	A	10-12-1963	GB 918200 A	13-02-1963
FR 2233553	A	10-01-1975	FR 2233553 A1	10-01-1975
EP 0823578	A	11-02-1998	JP 2799562 B2	17-09-1998
			JP 10054489 A	24-02-1998
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			KR 249005 B1	01-04-2000
			US 5743572 A	28-04-1998